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ABSTRACT

WRITTEN RESPONSES FROM TEACHERS IN 12 ELEMENTARY SCHOOLS LOCATED IN SIX SCHOOL DISTRICTS IN THREE STATES PROVIDED DATA FOR THIS EXPLORATORY REPORT. FOUR INSTRUMENTS PROVIDED THE BASIS FOR THE QUESTIONNAIRES: JOB SATISFACTION, PUPIL CONTROL IDEOLOGY, REFERENCE GROUP ORIENTATION, AND LEADERSHIP. FEW INTERPRETATIONS ARE OFFERED ON THE RESULTS OF TRYING TO ASSESS THE UNIFORMITY AND VARIABILITY OF FOUR SUB-SAMPLES ON EIGHT VARIABLES. SOME EVIDENCE OF VARIATION ACCORDING TO GEOGRAPHICAL LOCATION WAS FOUND ON INSTRUMENTAL SATISFACTION, PUPIL CONTROL IDEOLOGY, REFERENCE GROUP ORIENTATION, AND PRODUCTION EMPHASIS. THE GREATEST DIFFERENCES, BOTH IN MAGNITUDE AND IN FREQUENCY OF OCCURRENCE, WERE FOUND BETWEEN THE EXPERIMENTAL SUB-SAMPLES. DIFFERENCES WERE RATHER SMALL, AND CONSISTENTLY SO, ON COMPARISONS BETWEEN EACH EXPERIMENTAL SUB-SAMPLE AND ITS CONTROL SUB-SAMPLE. (AUTHOR/GO)

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Uniformity and Variability in the Organizational Characteristics of Elementary Schools

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Introduction

The research reported in this and the following papers is exploratory in nature, representing an initial attempt at identifying the important dimensions or attributes of schools as organizations. No attempt has been made to state or test hypotheses. Rather, the goal has been to assess several variables in the hope that these will give a better understanding of educational organizations and aid in the formation of testable hypotheses for future research. Massive amounts of data have been collected and an extensive analysis of these data is now under way; however, the data reported here are based on an initial analysis using basic tabulations and statistical comparisons. Because of these and other limitations, one must be extremely cautious in drawing unwarranted generalizations or conclusions from the results reported here.

Sample

The data reported here were collected from an availability sample of teachers in 12 elementary schools located in six school districts in three states. The four sub-samples, upon which comparisons are made, each consist of three schools and are identified as: multi-unit experimental, multi-unit control, IPI (Individually Prescribed Instruction) experimental, and IPI control. The data are based upon wirtten responses of teachers to four instruments designed to measure variables which are generally thought of as lying in the social-psychological domain. These variables are: (1) Job Satisfaction, (2) Pupil Control Ideology, (3) Reference Group Orientation, and (4) Leadership.

Results

Job Satisfaction. The instrument employed to measure job satisfaction utilized Likert-type responses to each of ten items. In a manner similar to Herzberg (1964) and Hage and Aiken (1967), job satisfaction was conceptualized as being bi-dimensional rather than uni-dimensional. Six of the ten statements in the instrument were intended to measure the respondent's satisfaction associated with the work itself; this type of job satisfaction is referred to as instrumental satisfaction. The remaining four items were intended to measure satisfaction related to such things as interpersonal relationships, and is referred to here as expressive satisfaction.

Instrumental Job Satisfaction. When the results of questions dealing with instrumental satisfaction were ranked according to sub-sample mean scores, the ranking (highest satisfaction to lowest) was: multi-unit experimental, multi-unit control, IPI control, and IPI experimental (See Table 1). While the mean scores did not appear to be excessively different, the probabilities of differences computed on the basis of Kolmogorov-Smirnov "D" scores presented a different impression. When the experimental schools were compared with their controls, the differences appeared to be slight ($p > .10$ in both cases). However, comparisons between multi-unit and IPI sub-samples exhibited a clearer pattern, with the multi-unit sub-samples being consistently higher in instrumental satisfaction. The comparison of control sub-samples indicated greater instrumental satisfaction in the multi-unit sub-sample ($p < .025$), and the difference between the multi-unit control and the IPI experimental was even more accentuated ($p < .005$). The multi-unit experimental sub-sample exhibited greater instrumental satisfaction than either the IPI experimental or the IPI control sub-sample ($p < .001$ for both comparisons).

TABLE 1: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Instrumental Satisfaction.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimantal vs		
Multi-unit Control	.158	ns
IPI Experimental	.445	.001
IPI Control	.385	.001
Multi-unit Control vs		
IPI Experimental	.35	.005
IPI Control	.290	.025
IPI Experimental vs		
IPI Control	.121	ns
Multi-unit Exper. & Control vs		
IPI Exper. & Control	.367	.001

School Type	Means	Number of Teachers
	20.00 (1)	63
Multi-unit Control	19.25 (2)	63
IPI Control	17.89 (3)	56
IPI Experimental	17.11 (4)	57
Multi-unit Exper & Control	19.63	126
IPI Exper & Control	12.50	113

*Two-tailed, exact probabilities not available

**Four items

Expressive Satisfaction. The ranking of sub-sample mean scores was the same for expressive satisfaction as it was for instrumental, with the multi-unit experimental sub-sample highest, followed by the multi-unit control, IPI control, and IPI experimental (See Table 2). However, when probabilities were computed on the basis of the Smirnov Test, each comparison of sub-samples yielded a probability of greater than .1, indicating that the degree of expressive satisfaction was approximately equal for all four sub-samples. Although no differences of any magnitude were evidenced, it seems worthwhile to note that the pattern, based on sub-sample mean score ranking, was the same for both expressive and instrumental satisfaction.

The evidence is fairly clear that, on instrumental satisfaction, respondents in the multi-unit experimental and multi-unit control sub-samples were more highly satisfied than respondents in the IPI experimental or IPI control sub-samples ($p < .025$ for all comparisons). Perhaps these sub-sample differences can be best explained as regional variations since all comparisons between regions yielded probabilities of less than .05 while comparisons between experimental and control sub-samples within each region yielded probabilities of greater than .05. When the multi-unit experimental and multi-unit control sub-sample data for instrumental satisisfaction were combined and compared with combined data from IPI experimental and control sub-samples, the idea of regional variation was supported ($p < .001$). On a similar comparison of data combined by region for the expressive satisfaction variable, the probability was greater than .1. Thus, an explanation of regional difference appears tenable for instrumental satisfaction, but even though sub-samples fell in the same rank order on expressive satisfaction, no such interpretation seems viable.

TABLE 2: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Expressive Satisfaction.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.159	ns
IPI Experimental	.189	ns
IPI Control	.219	ns
Multi-unit Control vs		
IPI Experimental	.143	ns
IPI Control	.114	ns
IPI Experimental vs		
IPI Control	.054	ns
Multi-unit Exper and Control vs		
IPI Experimental and Control	.144	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	13.57 (1)	63
Multi-unit Control	12.90 (2)	63
IPI Control	12.70 (3)	56
IPI Experimental	12.32 (4)	57
Multi-unit Exper & Control	13.40	126
IPI Exper & Control	12.50	113

*Two-tailed, exact probabilities not available
**Four items

Any explanation of these results must take into consideration two important factors. First, a period of more than one year had elapsed, after the introduction of both the multi-unit and the IPI innovations, before job satisfaction was measured. During this lapse of time stabilization may have occurred in such areas as interpersonal relationships, thus accounting for the lack of variation on expressive satisfaction and possibly diminishing all experimental versus control differences. Second, the IPI innovation involves only two subjects (math and reading) and the conflicts which may arise from working within two juxtaposed teaching systems are not known.

Pupil Control Ideology. To assess the attitudes which teachers hold concerning the control of pupil behavior, a five-item (short-form) of the Pupil Control Ideology Instrument (Willower, 1967) was administered. This instrument was designed to measure on a Likert-type response scale the pupil control ideology of educators along a custodial-humanistic continuum. A custodial pupil control ideology (high scores) stresses the maintenance of order, distrust of students, and a punitive, moralistic approach while a humanistic ideology (low scores) emphasizes an accepting, trustful view of pupils, and optimism concerning their ability to be self-disciplining and responsible.

Mean score ranking, for most humanistic to most custodial, indicated the multi-unit experimental schools to be most humanistic followed by multi-unit control, IPI experimental, and IPI control (See Table 3). Probabilities computed from the Smirnov Test indicated little difference between IPI experimental and IPI control or multi-unit control ($p > .10$ for both). A slightly larger difference was indicated for the comparison between the multi-unit experimental and the multi-unit control ($p < .10$). Larger differences were found when the two experimental

TABLE 3: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Pupil Control Ideology.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.227	.10 (ns)
IPI Experimental	.315	.01
IPI Control	.487	.001
Multi-unit Control vs		
IPI Experimental	.129	ns
IPI Control	.266	.05
IPI Experimental vs		
IPI Control	.172	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	9.80 (1)	57
Multi-unit Control	11.03 (2)	63
IPI Control	12.71 (4)	56
IPI Experimental	11.39 (3)	57

*Two-tailed, exact probabilities not available
**Five items

groups were compared ($p < .01$) and when the control groups were compared ($p < .05$). The largest difference found was that between the multi-unit experimental and the IPI control ($p < .001$).

Since there is no clear difference between the multi-unit control and the IPI experimental groups ($p > .10$), the differences in scores cannot be explained by regional factors alone. However, regional variations undoubtedly play a large part in explaining the differences, especially since the comparison between combined multi-unit sub-samples and combined IPI sub-samples yielded a probability of less than .001. Whatever the explanation, there can be no doubt that the multi-unit respondents are far more humanistic in their attitudes toward pupil control than are the IPI respondents (except $p > .1$ for MUC versus IPIX). Although no explanation for the apparent regional variation is readily available, differences in teacher training, selection, age, sex or experience, might serve as a partial explanation; pupil's socio-economic status, or other local variations might also be partially responsible. However, any interpretation based on the present analysis would seem premature.

Reference Group Orientation. The reference group orientation of teachers in the four sub-samples were assessed by a three-item instrument. Respondents were asked to choose one of two responses to each item, with one response reflecting a cosmopolitan orientation and the other reflecting a local orientation. The ranking of the mean scores indicated that the IPI experimental sub-sample was the most cosmopolitan followed by multi-unit experimental, multi-unit control, and IPI control (See Table 4). However, the range of the means was only .34 (4.76 to 4.44). Probabilities based on the Smirnov Test indicate no distinct differences between the

TABLE 4: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Reference Group Orientation.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.86	ns
IPI Experimental	.191	ns
IPI Control	.187	ns
Multi-unit Control vs		
IPI Experimental	.187	ns
IPI Control	.186	ns
IPI Experimental vs		
IPI Control	.190	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	4.65 (2)	56
Multi-unit Control	4.51 (3)	60
IPI Control	4.44 (4)	56
IPI Experimental	4.76 (1)	54

*Two-tailed, exact probabilities not available
**Three items

sub-samples (all p's > .10). A closer look at the data, however, indicated that there was a large "flop-over" effect, that is, individuals did not tend to answer all three items consistently. The greatest inconsistency appeared to occur on Item Number 2 which dealt with the respondent's source of intellectual stimulation. A preliminary analysis of agreement between responses on the three items indicated that this effect was more pronounced in both the multi-unit experimental and control sub-samples than in either of the IPI sub-samples. For this reason, an analysis was made on the basis of respondents who scored at the extremes of the scale, i.e., those who scored all items with a cosmopolitan orientation were compared with those who scored all items with a local orientation (See Table 5).

The percentage of respondents in the IPI experimental sub-sample scoring as pure-type cosmopolitans was approximately twice as large as the percentage of cosmopolitans in either the IPI control or the multi-unit experimental sub-sample (27.7% versus 14.3%, and 14.3%), and nearly four times as great as the percentage of cosmopolitans in the multi-unit control sub-sample (6.89%). Approximately ten percent of the respondents in both the IPI experimental and IPI control sub-samples were "pure-type locals," while the multi-unit experimental and control sub-samples contained zero percent and 15.5 percent locals, respectively.

While the two experimental groups, on the basis of mean scores, appeared to be more cosmopolitan in orientation than either of the control groups, these differences did not seem to be major. Further, the multi-unit experimental and control schools appeared to be more similar in their local-cosmopolitan orientation than did the IPI experimental and control schools. These results may not lead one to conclude that a regional variation was a viable explanation of the differences;

TABLE 5: Percentage of Respondents Scoring as Pure-Type Locals and Cosmopolitans on Reference Group Orientation.

School Type	Number in Total Sample	Cosmopolitan N	Cosmopolitan %	Local N	Local %
IPI Experimental	54	15	27.7	5	9.44
IPI Control	56	8	14.3	6	10.7
Multi-unit Experimental	56	8	14.3	0	0.0
Multi-unit Control	58	4	6.89	9	15.5

however, when the experimental and control sub-samples from each region were collapsed into single groups and compared, a different assessment emerged. A chi-square test computed on this regional comparison yielded a probability of less than .02, pointing to some sort of regional difference. It must be noted that this analysis included only 55 "pure type" respondents (24.6% of the total sample), and any conclusions drawn must be very tentative.

One possible explanation for the more cosmopolitan tendency of respondents in the experimental sub-samples, a condition especially notable in IPI schools, might be that experimentation encourages extra-organizational relationships and, therefore, nurtures a cosmopolitan orientation.

Leadership. The final variable under consideration was that of the leadership characteristics of school principals. The instrument used required Likert-type responses to 16 items on which teachers evaluated their principal's leadership qualities. These items were adapted from the Halpin and Croft OCDQ (1963). The sub-samples were compared on the basis of responses to four sub-scales, each consisting of four questionnaire items.

Aloofness refers to behavior by the principal which is characterized as formal and impersonal. He "goes by the book" and prefers to be guided by rules and policies rather than to deal with teachers in an informal, face-to-face situation. His behavior, in brief, is universalistic rather than particularistic; nomothetic rather than idiosyncratic. To maintain this style, he keeps himself — at least "emotionally" — at a distance from his staff.

The ranking of the sub-sample means indicates that the multi-unit control principals were the most aloof, followed by the IPI experimental, multi-unit

experimental, and IPI control, but the range of the means was only .65, and no comparisons yielded probabilities less than .05 (See Table 6).

Consideration refers to behavior by the principal which is characterized by an inclination to treat the teachers "humanly," to try to do a little something extra for them in human terms.

As in the case of both satisfaction sub-scales, the rank order of the sub-sample means on the consideration sub-scale yielded the pattern of: multi-unit experimental, multi-unit control, IPI control, and IPI experimental (SeeTable 7). All comparisons yielded probabilities greater than .10 except in the case of the comparison between the multi-unit experimental and the IPI experimental where the probability was less than .05. The data do not indicate a regional explanation to be viable, but they do indicate that the multi-unit experimental principals are considered by teachers to be more considerate than their counterparts in the IPI schools.

Production Emphasis refers to behavior by the principal which is characterized by close supervision of the staff. He is highly directive, and plays the role of a "straw boss." His communication tends to go in only one direction, and he is not sensitive to feedback from the staff.

The production-emphasis sub-scale yielded sub-sample mean scores which when ranked from high to low were: multi-unit control, IPI control, IPI experimental, and multi-unit experimental (See Table 8). Probabilities computed from the Smirnov Test indicated that four of the comparisons yielded probabilities of greater than .05. However, the comparison between the multi-unit experimental and control sub-samples yielded a probability of less than .01, while the comparison between the IPI and multi-unit experimental sub-samples yielded a probability of

TABLE 6: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Aloofness.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.155	ns
IPI Experimental	.090	ns
IPI Control	.187	ns
Multi-unit Control vs		
IPI Experimental	.120	ns
IPI Control	.203	ns
IPI Experimental vs		
IPI Control	.138	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	8.66 (3)	61
Multi-unit Control	9.35 (1)	62
IPI Control	8.60 (4)	49
IPI Experimental	9.02 (2)	52

*Two-tailed, exact probabilities not available
**Four items

TABLE 7: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Consideration.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.100	ns
IPI Experimental	.260	.05
IPI Control	.214	ns
Multi-unit Control vs		
IPI Experimental	.217	ns
IPI Control	.179	ns
IPI Experimental vs		
IPI Control	.126	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	8.89 (1)	61
Multi-unit Control	8.42 (2)	62
IPI Control	7.79 (3)	49
IPI Experimental	7.33 (4)	52

*Two-tailed, exact probabilities not available
**Four items

TABLE 8: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Production Emphasis.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.402	.001
IPI Experimental	.275	.05
IPI Control	.256	.10 (ns)
Multi-unit Control vs		
IPI Experimental	.244	.10 (ns)
IPI Control	.146	ns
IPI Experimental vs		
IPI Control	.054	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	7.44 (4)	61
Multi-unit Control	9.50 (1)	62
IPI Control	8.77 (2)	49
IPI Experimental	8.39 (3)	52

*Two-tailed, exact probabilities not available
**Four items

less than .05. The greatest difference in production emphasis is between the multi-unit control, which had the highest production emphasis, and the multi-unit experimental. It is clear that the differences in production emphasis cannot be explained by regional variation.

Thrust refers to behavior by the principal which is characterized by his evident effort in trying to "move the organization." "Thrust" behavior is marked not by close supervision, but by the principal's attempt to motivate the teachers through the example which he personally sets, Apparently, because he does not ask the teachers to give of themselves any more than he willingly gives of himself, his behavior, though starkly task-oriented, is nontheless viewed favorably by the teachers.

On the thrust sub-scale, the ranking of sub-sample means indicated that the multi-unit control principals were rated as having the highest amount of thrust, followed by the multi-unit experimental, IPI control, and IPI experimental (See Table 9). Comparisons between the control groups and their respective experimental groups yielded probabilities greater than .1. The comparison between the multi-unit control and the IPI experimental sub-samples yielded a probability of less than .005. These results could be interpreted to indicate an explanation in terms of regional differences, but the lack of difference between control groups, in addition to the extremely small difference between the multi-unit groups should attenuate such a possible explanation.

Summary

In this paper we have assessed the uniformity and variability of four sub-samples on eight variables. Some evidence of variation according to geographic location was found on instrumental satisfaction, pupil control ideology, reference

TABLE 9: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Thrust.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.054	ns
IPI Experimental	.332	.005
IPI Control	.263	.05
Multi-unit Control vs		
IPI Experimental	.286	.025
IPI Control	.236	.10 (ns)
IPI Experimental vs		
IPI Control	.126	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	12.64 (2)	61
Multi-unit Control	12.66 (1)	62
IPI Control	10.85 (3)	49
IPI Experimental	10.04 (4)	52

*Two-tailed, exact probabilities not available
**Four items

group orientation, and production emphasis. The greatest differences, both in magnitude and in frequency of occurrence, were found in comparisons between the experimental sub-samples ($p < .05$ in 6 of 9 comparisons). On comparisons between each experimental sub-sample and its control sub-sample, differences were rather consistently small. Few interpretations have been offered, but we hope to offer better explanations of the findings when analyses have been completed.

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